MISSOURI DEPARTMENT OF NATURAL RESOURCES
AIR AND LAND PROTECTION DIVISION
ENVIRONMENTAL SERVICES PROGRAM
Standard Operating Procedures

SOP #: MDNR-FSS-400 EFFECTIVE DATE: August 9, 2002

SOP TITLE: Developing, Revising and Reviewing FSS and WQMS Standard Operating Procedures

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APPROVED BY: Earl Pabst, Director, ESP

SUMMARY OF REVISIONS: Minor changes have been made throughout this SOP to reflect organizational changes within the program.

APPLICABILITY: The procedures described in this SOP are applicable to all ESP personnel involved with writing, reviewing, and revising SOPs for the Field Services and Water Quality Monitoring Sections.

DISTRIBUTION:
MoDNR Intranet
ESP SOP Coordinator

RECERTIFICATION RECORD:

Date Reviewed				
Initials				

1.0 PURPOSE

A Standard Operating Procedure (SOP) describes how to conduct specific technical and administrative activities. The development and use of SOPs promotes quality and consistency within the organization in conducting those activities. They are intended to be specific to the organization whose activities are described, should be read and used by existing employees when conducting work activities, and should be an integral part of a new employee training program. This particular SOP has been written to provide guidance for Environmental Services Program (ESP) Field Services Section (FSS) and Water Quality Monitoring Section staff in development of new and revision of existing SOPs.

The FSS and WQMS have developed two basic types of SOP documents: the technical SOP (hereinafter referred to as simply an SOP), and the Project Procedure. An SOP is narrow in scope and usually describes in a step-by-step manner how to perform a certain field or laboratory activity. A Project Procedure is broader in scope and describes in more general terms how to conduct a field activity or type of investigation. The procedures described within this SOP are applicable to the development, revision, and review of both types of documents.

It shall be the goal of the program to review existing FSS and WQMS SOPs for recertification once every two years. The SOP Coordinator shall review the current list of SOPs on a regular basis and attempt to ensure that the recertification goal is met. The SOP Coordinator shall consult with the appropriate FSS or WQMS Chief to determine responsibility for rewriting individual SOPs that are due for recertification. The appropriate Section Chief shall make all assignments regarding who shall be responsible for writing new SOPs.

2.0 FORMAT AND STYLE

2.1 In writing an SOP, the terms "shall" and "must" are to be used when the specific element is required and deviation from the specification will constitute nonconformance with the standard. The term "should" indicates that the procedure is recommended but not absolutely required. The term "may" indicates when the procedure is optional.

2.2 With few exceptions, all typewritten words shall be in 12 pt. Times New Roman. The standard title page, described in more detail later, shall have a main centered heading in 14 pt. Times New Roman. The control documentation on each page, described in more detail later, shall be in 10 pt. Times New Roman. Exceptions will be made where meeting these guidelines is difficult or deemed inappropriate, such as on illustrations, tables, etc.

2.3 Bold type or underlining shall not be used for headings, except for the standard title page where the main centered heading shall be in bold type. However, bold type or underlining may be used by an author to emphasize a point within an SOP.

2.4 The following outline format and numbering system shall be used:

1.0 MAIN HEADING (All Caps)

1.1 Secondary Heading or paragraph

1.1.1 Subheading or paragraph

Arabic numerals shall be used within the outline and numbering system. The numbering system should not extend beyond the level of subheading (i.e. 1.1.1). If there is a 1.1, then there must be at least a 1.2. If there is a 1.1.1, then there must be at least a 1.1.2.

At the author's discretion, unnumbered paragraphs may be used beneath Main Headings, Secondary Headings or Subheadings if the information does not need to be presented in any particular step-by-step manner or chronological order. Section 1.0 of this particular SOP is an example of appropriate use of unnumbered paragraphs below a Main Heading.

2.5 If there are elements that would not fit well into a numbering system, such as a list of acronyms or an equipment list, then bullets may be used. Bullets should be used instead of dashes "-". For example:

The following equipment and supplies will be needed:
- sample tags
- cubitainers
- cooler

2.6 Control documentation must be included on each page of an SOP and, with the exception of the title page, shall be located as a header in the upper left-hand corner of the page. The title page shall include only "Page X of Y", which shall be centered at the bottom of the page. Control documentation shall also be placed in the upper left-hand corner of the table of contents and all pages of appendices and attachments, although there may be exceptions made when it is deemed inappropriate or too burdensome to accomplish. Control documentation shall be in 10 pt. Times New Roman, as follows:

MDNR-FSS-XXX (SOP #)
Effective Date: XXXXXX
Page X of Y (page number of total number of pages)

2.7 Each page should have a standard one-inch margin on the left, right, and bottom of the page. The header should be 1/2-inch from the top of the page.

2.8 Photographs can be valuable illustrative tools to help make a point or further describe an item that is discussed within an SOP. There are several ways to insert a photo within a document and authors may use whatever means they are comfortable with (e.g., Power Point). When photos are inserted in an SOP they should be clear and of good quality. If labeling is used on a photograph, the type, size, and color of the lettering should be selected to provide optimum contrast to make the labeling easy to read.

3.0 CONTENT

3.1 Title Page

A standard title page (such as the one used for this SOP) has been developed and shall be used for all SOPs. An electronic copy of the standard title page can be obtained from the FSS SOP Coordinator.

3.2 Table of Contents

A table of contents should only be included for documents that are more than ten pages long, excluding appendices or attachments.

3.3 Sections

Most SOPs should include the following sections, if applicable. The sections are listed in the recommended order, are capitalized as they should be in an actual SOP, and are followed by a brief discussion on what should be included within the section. A Project Procedure may also follow this recommended format, but because a Project Procedure is broader in scope than an SOP, the sections recommended below may not be applicable.

- SCOPE AND APPLICABILITY
  Should include a brief introduction of the SOP, the purpose, scope, and the audience for which the SOP is written.

- SUMMARY OF METHOD
  Should include a brief narrative summary of the heart of the SOP, and should be no more than one or two paragraphs long.

- DEFINITIONS AND ACRONYMS
  Any acronyms, abbreviations, and technical or unusual words should be described here.

- HEALTH AND SAFETY REQUIREMENTS
  Specific health and safety requirements should be listed in this section, including chemical safety information, personal protective equipment requirements, and cautionary statements.

- PERSONNEL QUALIFICATIONS
  Should include any specific training, experience, or other qualifications personnel would need to safely and effectively follow the procedure.

- SUPPLIES AND EQUIPMENT
  All supplies and equipment needed to perform the procedure should be listed in this section.

- PROCEDURE
  This section shall specifically explain each step of the process necessary to thoroughly and safely complete the task or activity that is the subject of the SOP. In most cases, the procedure should be organized chronologically so that the reader can follow the procedure in a step-by-step manner starting at the top of the section and working down through the procedure to the end.

- HANDLING AND PRESERVATION
  This section should include any particular sample handling or preservation methods needed.

- QUALITY ASSURANCE/QUALITY CONTROL
  Any QA/QC procedures that are important to the procedure should be included in this section. For example, if trip blanks, field blanks, or duplicate samples are needed, then they should be indicated here.

- REFERENCES
  All other documents referenced or mentioned in the SOP shall be listed in this section, including other SOPs.

4.0 REVIEW PROCESS

4.1 Whenever an author is ready to submit either a new SOP for formal review or an existing SOP for recertification review, the author must first submit a copy to the SOP Coordinator. The review procedures for recertification are the same as that for newly written SOPs.

4.2 The SOP Coordinator shall distribute the submitted SOP to the SOP Review Committee. The SOP Review Committee consists of highly experienced ESP staff, including the ESP Program Director and several Unit and Section Chiefs.

4.3 The members of the SOP Review Committee shall have one month to review the document and submit written comments to the SOP Coordinator. If the author can demonstrate the need for an expedited review turn-around time, then the SOP Coordinator may request comments from the Review Committee within a shorter time frame.

4.4. The SOP Coordinator shall collect the written comments and provide them to the author.

4.5 The author shall consider the comments and write a second draft of the SOP and submit a copy of the revision to the SOP Coordinator. The author must attach a summary of the written comments received from each member of the SOP Review Committee and provide a written response to each comment. Only substantive comments need to be addressed - typos and other minor comments need not be included in the written summary.

4.6 The SOP Coordinator shall distribute the second draft to the SOP Review Committee for a second review.

4.7 The SOP Review Committee shall provide written comments to the SOP Coordinator within two weeks. The SOP Coordinator will again collect the comments and provide them to the author.

4.8 The author shall consider the second round of comments and write a third draft, if necessary. The third or final draft shall then be submitted to the SOP Coordinator. If there were any substantive comments received, the author must compile a written summary of the comments and include a written response to each comment as an attachment to the final draft.

4.9 The SOP Coordinator shall submit the final copy, with a summary of comments attachment, to the Program Director for signature. Any final comments by the Program Director should be provided to the SOP Coordinator who will work with the author to get the document finalized. The SOP Coordinator shall track all SOPs throughout the review process to ensure that the prescribed timelines are followed.

5.0 DISTRIBUTION AND STORAGE

5.1 In the interest of reducing paper copies and ensuring that all staff have ready access to the most up-to-date versions, the ESP shall make all of its current field SOPs available via the MoDNR Intranet and will no longer be routinely distributing paper copies. The SOP Coordinator shall be responsible for maintaining an electronic copy of all current SOP documents and maintaining the MoDNR Intranet web page on SOPs.

5.2 In terms of usage and availability, there are three categories of SOPs: current, inactive, and outdated.

5.2.1 A current SOP is one that covers a procedure that is routinely followed by ESP field staff. A current SOP should either have an effective date or recertification date that is not more than two years old. Current SOPs are made available on the MoDNR Intranet. The SOP Coordinator shall maintain paper copies with a signature page of all current SOPs.

5.2.2 An inactive SOP describes a procedure that is no longer followed by ESP field staff. An SOP may become inactive due to changes in technology or changes in program responsibility. The FSS or WQMS Chief shall determine when an SOP should be inactivated and removed from the current list. Once inactivated, the SOP shall no longer be available via the MoDNR Intranet. Copies of all inactive SOPs will be kept and maintained by the SOP Coordinator if needed for future reference.

5.2.3 An outdated SOP is one that has been replaced by an updated revision. The updated revision usually goes by the same SOP name and number as the outdated SOP it replaced. Outdated SOPs will not be available via the MoDNR Intranet. The difference between an outdated SOP and an inactive SOP is that the procedure described within an outdated SOP is still performed to some extent by ESP field staff, it has just been revised to reflect changes to the procedure. The procedure found in an inactive SOP is no longer being performed in any sense. Copies of all outdated SOPs will be kept and maintained by the SOP Coordinator if needed for future reference.